

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference ASMEX.402VPC	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US03/22392	International filing date (<i>day/month/year</i>) 18 July 2003 (18.07.2003)	(Earliest) Priority Date (<i>day/month/year</i>) 19 July 2002 (19.07.2002)
Applicant ASM AMERICA ,INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the Report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:



contained in the international application in written form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 11



as suggested by the applicant.



because the applicant failed to suggest a figure.



because this figure better characterizes the invention.



None of the figures

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Box III TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

The technical features mentioned in the abstract do not include a reference sign between parentheses (PCT Rule 8.1(d)).

NEW ABSTRACT

A bubbler (820) includes a main body (900), a cover member and a transition member (915). The main body (900) is made of aluminum and defines a first inner surface (902) of a cavity (904). The cover member is also made of aluminum and defines a second inner surface of the cavity (904). The cover member has a carrier gas inlet (920), a liquid source inlet (922), and a source outlet (923). The transition member (915) is made of stainless steel and has a transition outer surface (944) and a transition inner surface (916), the transition inner surface (916) being aluminum clad.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B01F 3/04
US CL : 261/127, 135, 121.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 261/127, 135, 139, 121.1, 122.1, 124, Dig. 65; 118/726

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST Search Terms: bubbler, vaporizer, aluminum, stainless steel, liquid, carrier gas

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,078,922 A (COLLINS et al) 07 January 1992 (07.01.1992), fig. 5.	1-28
A	US 5,268,045 A (CLARE) 07 December 1993 (07.12.1993), figs. 1 and 2.	1-28
A	US 6,074,487 A (YOSHIOKA et al) 13 June 2000 (13.06.2000), figs. 13-16.	1-28
A	US 6,110,283 A (YAMAMUKA et al) 29 August 2000 (29.08.2000), fig. 13.	1-28
A	US 6,165,271 A (ZHAO et al) 26 December 2000 (26.12.2000), figs. 1 and 2.	1-28

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:		"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

26 May 2005 (26.05.2005)

Date of mailing of the international search report

14 JUN 2005

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